

COURSE DESCRIPTION

Faculty	Science and Information Technology				
Department	Software Engineering	NQF level	7		
Course Title	Programming Language I	Code	185103	Prerequisite	-----
Credit Hours	3	Theory	2	Practical	1
Course Leader	Dr. Moath Najeeb	email	m.najeeb@jadara.edu.jo		
Lecturers	Dr. Arij Hamad Dr. Aymen Abu-Errub Dr. Marah Sarireh Dr. Moaath Shatnawi Dr. Qutaiba Zaqiba Dr. Saleh Omar Dr. Zahi AbuSarhan Dr. Mohammad Khasawneh	emails	a.hamad@jadara.edu.jo a.abu-errub@jadara.edu.jo m.sarireh@jadara.edu.jo mo.shatnawi@jadara.edu.jo q.azqiba@jadara.edu.jo saleh.o@jadara.edu.jo z.abusarhan@jadara.edu.jo mo.alkhasawneh@jadara.edu.jo		
Lecture time		Classroom	Face to face		
Semester	1 st Sem (2024/2025)	Production	2009	Updated	2024

Short Description

This course introduces the use of C++ as an aid to solve mathematical and scientific problems, creating, compiling, and executing C++ programs (Data Types, Variables, Nested control structure, Nested Loops structure, Predefined and user defined functions, One dimensional arrays).

Course Objectives

- To let students, acquire knowledge and understand structured programming.
- Promote students' skills to analyze, design, executing C++ structured programming concept.

Learning Outcomes

A. Knowledge - Theoretical Understanding

a1. **Illustrate** basic concepts on C++ commands and code segments. (K1)

B. Knowledge - Practical Application

a2. **Construct** C++ code to solve basic problems and some real word cases. (K4)

C. Skills - Generic Problem Solving and Analytical Skills

b1. **Evaluate** C++ code using problem-solving techniques and constraints. (S2)

D. Skills - Communication, ICT, and Numeracy

E. Competence: Autonomy, Responsibility, and Context

Teaching and Learning Methods

- Lecture notes, Labs, and references

Assessment Methods
<ul style="list-style-type: none"> Quizzes, lab work, Assignments, Midterm exam, and Final exam.

Course Contents					
Week	Hours	CLOs	Topics	Teaching & Learning Methods	Assessment Methods
1	3	a1	Introduction to C++ programming: C++ program environment. processing a C++ program, programming with the problem analysis coding execution cycle.	Face to face Lectures & Labs	
2-4	9	a1, a2, b1	Basic Elements of C++ (Comments, reserved words, identifiers), data types and memory allocation, arithmetic operators and operator precedence, constants and variables, input (read) statement, increment and decrement operators, output, creating a C++ program, debug, and run using SDK.	Face to face Lectures & Labs	Quiz
5-8	12	a1, a2, b1	Programming Flow of Control: Selective structure in C++ programming, if statements, nested if, Repetitive structure (Loops) (For, While and Do-While), nested loops.	Face to face Lectures & Labs	Quiz Assignment
MIDTERM EXAM					
9-12	12	a1, a2, b1	Functions: Predefined and user-defined functions, void functions, value-returning functions, formal parameter list, actual parameters, Function Prototype, value and reference parameters, scope of an identifier, global variables, default parameters.	Face to face Lectures & Labs	Quiz Assignment
13-14	6	a1, a2, b1	Arrays and Strings: Declaring and processing 1D arrays, array initialization, character arrays.	Face to face Lectures & Labs	Assignment
Final exam					

Infrastructure	
Textbook	C++ Programming: From Problem Analysis to Design. D.S. Malik, 8th Ed., 2018.
References	C++ How to Program, Paul J. Deitel and Harvey Deitel, Pearson, 10th Ed., 2016.
Required reading	
Electronic materials	
Other	

Course Assessment Plan				
Assessment Method	Grade	CLOs		
		a1	a2	b1
Midterm	30	8	12	10
Coursework	20	4	1	15
Final Exam	50	15	25	10
Coursework assessment methods	Assignments			
	Case study			
	Discussion and interaction			
	Group work activities			
	Lab tests and assignments			
	Presentations			
	Quizzes			
Total	100	27	38	35

Plagiarism
<p>Plagiarism is claiming that someone else's work is your own. The department has a strict policy regarding plagiarism and, if plagiarism is indeed discovered, this policy will be applied. Note that punishments apply also to anyone assisting another to commit plagiarism (for example by knowingly allowing someone to copy your code).</p> <p>Plagiarism is different from group work in which a number of individuals share ideas on how to carry out the coursework. You are strongly encouraged to work in small groups, and you will certainly not be penalized for doing so. This means that you may work together on the program. What is important is that you have a full understanding of all aspects of the completed program. In order to allow proper assessment that this is indeed the case, you must adhere strictly to the course work requirements as outlined above and detailed in the coursework problem description. These requirements are in place to encourage individual understanding, facilitate individual assessment, and deter plagiarism.</p>